

# TEACHING VOCABULARY BY USING PICTURE FOR AUTISM STUDENTS

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**Abstrak :** Mengajar kosata dengan menggunakan gambar untuk siswa autism. Penelitian ini bertujuan untuk menginvestigasi apakah mengajar kosakata dengan menggunakan gambar efektif atau tidak dan untuk melihat perbedaan ketercapain siswa yang mendapatkan perlakuan dengan siswa yang tidak mendapatkan perlakuan. Metode penelitian yang digunakan adalah metode eksperimen semu. Berdasarkan hasil analisis data, nilai rata-rata pre-tes kelompok eksperimen adalah 59.17 dan nilai rata-rata pos-tes nya adalah 77.50. Sedangkan nilai rata-rata pre-tes kelompok control adalah 60.00 dan nilai rata-rata pos-tes nya adalah 65.90. Didapatkan nilai t-tes adalah 6.85 dan nilai tersebut lebih tinggi dari nilai t-tabel 1.714 dengan tingkat penyimpangan 23 pada level 0.05 atau 5%. Hal itu berarti *effect size* adalah 2.60 dan dikategorikan efek yang kuat dan alternative hipotesis diterima.

**Kata kunci :** kosa kata, gambar, siswa autisme

**Abstract :** Teaching vocabulary by using picture for autism students. The purpose of this research are to investigate whether the use of picture is effective or not for teaching vocabulary, and to investigate whether the differences between the students' of experimental group and students' achievement of control group is significant or not of the fourth grade students with autism. The research method used in this research is quasi-experimental. Based on the result of data analysis, the mean score of experimental group in pretest was 59.17 and in posttest was 77.50. Meanwhile, the mean score of control group in pretest was 60.00 and in posttest was 65.90. The interval score between pre-test and post-test is 18.33. The the writer found the  $t$  – value, which 6.85 is higher than  $t$  – table 1.714 with the degree of freedom 23 at the level 0.05 or 5%. It means that the significant score of the effect size was 2.60 and categorized as “strong effect” and the alternative hypothesis ( $H_a$ ) was accepted.

**Keywords :** vocabulary, picture, autism students

**I**n the meantime, every student has the right in education, but with the background of differences in intellectual ability, physical, family, habits, emotions so that the learning process also has variety of different problems. Because of that there is no exception for autism children to have right in

education. Autism children have barriers and under development mental that they have difficulty in academic tasks, social, and also in communications, so they need the education and services specifically in attending learning process. According to Timmons et.al (2000: 3), autism is a developmental disability that affects the normal functioning of the brain. Autism is present from birth and has an effect on how an individual learns. It is usually diagnosed by three years of age and continues through adulthood. Therefore, individuals with autism often have difficulty with communication skills, social skills, and reasoning. So, autism sufferer has communication and social interaction disorder. Based on the explanation, autism can be said as a developmental disability that typically appears during the first three years of life. Many children with autism have other disabilities such as mental retardation, fine motor delays, seizure disorders, attention deficit hyperactivity disorder and learning disabilities (Timmons, 2000: 4). It means that autism is actually a condition where the sufferer experiences problems in terms of communication and behavior caused by the damage on the psyche and is supported by the presence of many factors, both genetic and non-genetic.

Therefore, language teaching programs for autism students is different with language instruction program for common students. It is because the development of various aspects should be related to the abilities and needs of the autism students, one of them is in the way to teach them. Because of that in language teaching, autism children need some teaching media that can help them to learn the language easier.

It is better to have visual aids as teaching media for autism language teaching. According to Yunus (1981: 29), one of the advantages of using visual aids is that the students can use them for as long as they need to process the information. In contrast oral communication is transient: once said, the message is no longer available. Oral information may pose problems for students who have difficulty processing language. The visual aids can help the autism students to recognize and to learn the words. It is because for the autism students, the oral communication directly given to the autism students sometimes can not be recognized well.

Darula (2000:1) stated that autism children can be taught abstract words and ideas through visual concepts, like pictures and objects. She said that individuals with autism think visually because the part of the brain associated with visual tasks is more active. Through picture, it is expected that the teacher can attract their attention to learn so that the autism students can learn as good as other common students.

Handojo (2003: 52) and Burkhart (2005: 46) conclude that some students with autism have stronger abilities in the areas of rote memory and visual-spatial tasks than they have in other areas. They may actually excel at visual-spatial tasks, such as putting puzzles together, and perform well at spatial, perceptual, and matching tasks. Some may be able to recall simple information, but have difficulties in recalling more complex information.

Strength in visual-spatial skills has been described in personal accounts of individuals with autism. "Temple Grandin suggests that some people with autism

can more easily learn and remember information that is presented in a visual format, and that they may have problems learning about things that cannot be thought about in pictures” (Burkhart, 2005: 56).

Most of the students with autism have difficulty in comprehending oral and written information—for example, following directions or understanding what they read, they will not have capability of identifying words, applying phonetic skills, and knowing word meanings (Handojo, 2003: 45). Because of that to teach them to recognize an the object and to make them able to name the object, teacher should use appropriate teaching technique, strategy and media to make them able to memorize the words easily. For example by using big and eye-catching pictures to attract the students to the words, the teacher can make the autism students can make them interesting to learn the word.

In some literature, we found the meaning of vocabulary. There are some definitions of vocabulary. According to Zhihong (2000: 23) “Vocabulary is a component of language that maintains all of information about meaning and using word in language. This definition covers vocabulary’s meaning on the whole. Nevertheless, it does not show vocabulary in a deep understanding.”

For autism students, the main focus to teach English vocabulary is that the students should know that each object has its own name in English. It is because the fact that most of the autism students have problems in recognizing and naming object. The ability to label objects is often severely delayed in this population, as well as the inappropriate use of verbs and adjectives. Van Lancker et al. (1991), for example, found that autism children were below controls in their ability to identify concrete nouns, non-emotional adjectives, and emotional adjectives. Because of that in teaching English vocabulary, teacher should be able to use appropriate teaching media, such as picture that can help the autism students to identify and to name the object.

Warber ( 2010:1) stated that a person with autism generally has language, communications, social, and cognitive skills problems. Due to these difficulties, children with autism learn better with visual aids, imitation and structured environments that accommodate their sensory sensitivities and routines. The visual aids combined with demonstrations of different activities can help a child improve language skills. Because of that the types of vocabulary that should be learnt by the autism students should be visually able to represent the imitation of the real object. For the autism students their first experience to name the object is important. Because of that the vocabulary that they can see and touch in their real life is important vocabulary to be learnt first.

For the autism students, the focus of learning vocabulary is to recognize what the meaning of the word is. They learn to name the object. Because most of them can not name the object, they only point at the object without saying any word to name the object. That is why the visual teaching media is necessary for autism students to learn the vocabulary to catch their words’ understanding.

In general most of the autism students are visual learners. Because of that one teaching media can be used to teach English vocabulary for autism student is the picture. Parents and teachers use a number of teaching techniques to encourage children with autism to learn language, speech, social skills and

academics. One technique of teaching vocabulary for autism students can be applied based on Warber (2010:3) that is by using visual learning aids. Warber said that the visual learning aids are used because many students with autism learn better with visual aids because most of them have difficulties in understanding verbal instruction. Visual supports can help teacher in delivering the lesson to illustrate ideas or object discussed. In fact, picture cards can help nonverbal children with autism learn how to understand the word and to communicate with others.

Meanwhile Grandin (2002:1) stated some techniques of teaching vocabulary for autism students, they are as follows:

1. Teaching basic words, such as nouns by using pictures because most of the autism students are visual thinkers. It means that most of the autism students can easily know and memorize the name of the object if there is visualization of the object being taught
2. Students with autism have problems to remember the sequence. If the child can read, write the instructions down on a piece of paper. It means in teaching vocabulary, to give the instruction for the task, if the students can read, it is better to give the instruction in written. It is because most of the autism students can not remember the instruction given in oral.
3. Some autism students will respond better and have improved eye contact and speech if the teacher interacts with them while they are swinging on a swing or rolled up in a mat. Swinging should always be done as a fun game. It must never be forced. The generous teacher should be able to make the teaching learning process cooperative

The works of Dr. Temple Grandin have taught the world that most people with autism are visual thinkers. Instead of thinking in words, most autistic people perceive the world in pictures. Dr. Grandin describes not a one to one ratio of pictures to concepts, but rather a word summoning up a whole slide show of very precise images. These pictures can be thought of as the native vocabulary of an autistic person who thinks in pictures (Grandin 2006:1)

If pictures are the basis of an autistic student's native language, the spoken and written word would actually be a second language in which he can learn to function the same way a native speaker of English can learn to speak French or Spanish. This analogy can be helpful when approaching the task of introducing new vocabulary to a student on the autism spectrum.(Matton 2010:1). It means that pictures have important roles in teaching vocabulary for autism students. So the use of pictures in teaching vocabulary for autism students is necessary to be conducted.

In teaching autism students teachers should remember that autism students who think in pictures are learning what is essentially in a foreign language. Therefore, because picture is one of visual media that can represent object in printed image, the use of picture as media in teaching English vocabulary is suitable for the autism students. The use of picture can make the autism students recognize the name of the object in English easily. The pictures such as kinds of animals, part of the body or fruit are suitable to teach simple English vocabulary.

It is because those words are familiar with the students' life. So the objects are not new things for autism students.

Autism children learn verbal language by converting text to pictures. While typical thinkers do tasks sequentially, those with autism have a visual style of thinking. Therefore, shapes of pictures and color of pictures play an important role in the way they think. They help autism children learn a vocabulary that is easier to express. Darula (2010:1) said that visual thinking allows children with autism to understand spoken and written words. Because their brains function differently, they can better comprehend things by building visuals and memorizing them. They take concepts, which are sensory rather than word based, and compartmentalize them into little details to form a whole picture.

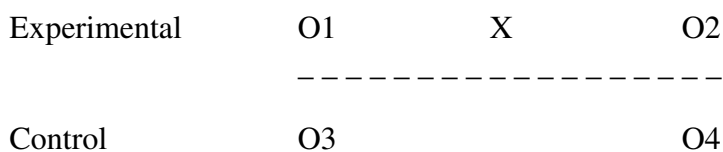
Autism children can be taught abstract words and ideas through visual concepts, like pictures and objects. For example, if a particular stuffed animal makes a child happy, it would become their visual symbol for the word happy. Bright colors for pictures can stimulate brain activity in the thinking process of autism students. It means that in teaching vocabulary for autism students, to represent the words in a visual object such as pictures is effective. It is because the pictures can visually represent the object that they will learn.

To make the picture is interesting for the autism students the teacher should be creative by making the eye-catching, colorful and clear picture. Besides, the teacher might also group the lists of vocabulary that can be used the autistic students to communicate. It is what Timmons et.al called as functional vocabulary. In other words, if they have vocabulary that allows them to do the things they want to do. For example, young children need vocabulary to interact with family, friends and something around them. Furthermore, in teaching vocabulary to autistic students, the teacher might set up the environment based on the characteristics of their learners (autistic students).

## METHOD

In this research the writer applied quasi experimental. Muijs (2004: 27) states that "quasi experimental is often used precisely because such random allocation is not possible or practical". This research used quasi-experimental design because the education world consists of limitation that affects the writer in assigning sample randomly. Besides that the variables in the research which deal with human behavior, language learning and language behavior are difficult to be controlled (Hatch & Farhady, 1982).

The design of quasi experimental with non-equivalent control group design is described as follows :



Where:

O1 = pre-test for experimental group

O2 = post-test for experimental group

X = treatment

O3 = pre-test for control group

O4 = post-test for control group

----- = explained the two groups are not assigned randomly

As the illustration above, the the writer gives pretest(O1 and O3) to the experimental and control group. The purpose of pretest is to investigate the students' ability in vocabulary. Next, the the writer gives three times treatments (X) to the students in experimental group. Finally, she gives posttest (O2 and O4) to the experimental and control group.

Cohen, Manion, & Morrison (2005: 92) defined population as all members of any well-defined class of people, events, or objects. The population of this study is the fourth grade of Cahaya Bangsa Elementary School. There are two classes of fourth grades, each of which consists of 12 students (4A) and 13 students (4B). The total numbers of students are 25 students. Two classes choosen based on fixed sampling are labeled into experimental (4A) and control group (4B).

Cohen, Manion, & Morrison (2005: 93) stated that sample is the small group that is observed. One of the characteristic of quasi experimental design is; we cannot choose the sample randomly, it should be the fixed sample. Because of that the the writer used classes which already available. In this school there were two classes of fourth grade, and both of these classes have similiar quality in achievement. The sample is divided in two classes of experimental group and control group. The samples of this research are the 12 students of 4A as the experimental group and the 13 students of 4B as the control group.

According to Blerkom (2008, p. 6) measurement is the process of assigning meaningful numbers (or labels) to persons or objects based on the degree to which they possess some characteristic. The measurement technique intended to measure the students' knowledge before and after treatment in order to know the effectiveness of pictures in teaching vocabulary for students with autism. The measurement was administered twice to the experimental group and the control group.

The first was pre-test which was given to investigate the students' achievement before the treatment. The second was post-test which was given to investigate the students' achievement after the treatment. The result of both test was compared to know its interval used to investigate whether the achievement was significant or not.

In this research, the tool of data collecting was written test. The written test was chose because most of the autism students had some difficulties in understanding the oral instruction.

The test form of the written test was multiple choice item test. A multiple choice item consists of alternatives which students' answer or complete by selecting one of several alternatives. Here, the the writer constructed the selection type. The test consists of 30 items of multiple choices with four options: A, B, C. It is purposed to measure the students' vocabulary mastery.

The students' individual score in comprehending materials accurately were obtained through pre-test and post-test. The formula of calculating the students' individual score is as follows:

$$A = \frac{x}{n} \times 100$$

Where:

A = Students' individual score

x = the number of correct answer

n = the total number of test item

1. To find out mean score of students' interval score:

$$M = \frac{\sum X}{N}$$

(Kubiszyn and Borich, 2007: 258)

Where:

M = students' mean score

X = the sum of students interval score

N = number of students

2. To find out the standard deviation squared of each group

$$S^2 = \frac{\sum X^2 - \frac{(\sum X)^2}{N}}{N}$$

(Kubiszyn and Borich 2007, p.277)

Where:

$S^2$  = the standard deviation squared

$X^2$  = the total sum of the squared interval score

X = the total sum of the interval score

N = the total number of students

3. To know the effectiveness of the treatment, the the writer use t-test

$$t = \frac{M_1 - M_2}{\sqrt{\frac{(N_1 - 1)S_1^2 + (N_2 - 1)S_2^2}{N_1 + N_2 - 2} \left[ \frac{1}{N_1} + \frac{1}{N_2} \right]}}$$

(Hinton, 2004, p.90)

Where:

$t$  = t-test

$M_1$  = mean score of experimental group

$M_2$  = mean score of control group

$S_1$  = standard deviation squared of experimental group

$S_2$  = standard deviation squared of control group

$N_1$  = number of students in experimental group

$N_2$  = number of students in control group

4. To know the standard of the effectiveness of the test, the the writer use the effect size

$$ES = \frac{M_e - M_c}{S_c}$$

(Cohen, Manion and Morrison 2005: 223)

Where:

$M_e$  = mean score of experimental group students

$M_c$  = mean score of control group students

$S_c$  = the standard deviation of control group students' score

## RESULT AND DISCUSSION

### Result

The purpose of this research are to investigate whether the use of picture is effective or not for teaching vocabulary, and to investigate whether the differences between the students' of experimental group and students' achievement of control group is significant or not of the fourth grade students with autism. The population of this study is the fourth grade of Cahaya Bangsa Elementary School. There are two classes of fourth grades, each of which consists of 12 students (4A) and 13 students (4B). The total numbers of students are 25 students. The samples of this research are the 12 students of 4A as the experimental group and the 13 students of 4B as the control group.

From research findings, the mean score of posttest in experimental group was higher than the mean score of posttest in control group ( $77.50 > 65.90$ ). Moreover, the interval of the students' mean score in experimental group was higher than control group ( $18.33 > 6$ ). The result of Effect Size was 2.60 (categorized as "strong effect"). The t-value was higher than t-table ( $6.85 > 1.714$ ). It indicates the Null Hypothesis ( $H_0$ ) is rejected and Alternative Hypothesis ( $H_a$ ) is accepted. It can be concluded that teaching English vocabulary for autism students by using picture is effective.

### Discussion



In this research at the first meeting of the treatment, the writer taught about animals. The writer started the lesson by showing picture of animals, the writer gave instruction to the students to see the displayed of picture on the layout. The writer began to pronounce the name of the picture that was showed, for example "Look at the picture! This is a brown cat, say cat" and the writer asked students to pronounce "cat". Reinforcement is very important in teaching students with autism because it can motivate and increase the students' behavior to learn.

At the second meeting, the writer taught the parts of body material. The material was delivered by using the pictures and direct object. At the beginning, the writer showed body parts picture and pronounced it, the writer asked students to pronounce and after that the writer asked students to touch their body part, for example "touch your eyes!".

And the third meetings, the writer taught fruits material. The material was still explained through picture. The writer showed the pictures of fruits and the writer asked students to see the pictures which were showed. For assessment, the writer gave the pictures of fruits to the students and asked them named the pictures of fruits.

Teaching vocabulary by using picture is effective to be used. Students with autism also like something that colorful, it can be seen when the writer taught about fruits material. They were rather noisy when they looked to the fruits picture, they were enthusiastic with color of pictures, most of them asked the writer what is the name of picture many times.

The teaching and learning process by using pictures for the treatment group had been successful, but the writer also faced some problems. Some problems were, before teaching the teachers must control the students' attention, and their concentrations were rather noisy and busy with themselves, and also most of students always asked many times and always repeat their question, the writer must be more patient. But the writer felt satisfy because students with autism had more curiosity with something that introduced especially through picture and they began to express what they had seen in a word.

For the control group, the writer held a pre-test on February 2<sup>nd</sup> 2012. The the writer took class IVB as the control group. The pretest was held in 60 minutes with 13 students. The writer gave treatments to the experimental group by using pictures. On the other hand, for the control group, the writer did not give treatment, but the writer taught the students with common techniques that the teacher usually applied.

After the writer gave treatment to the experimental group, she held a post-test for the experimental and control groups. From research findings, the mean score of posttest in experimental group was higher than the mean score of posttest in control group ( $77.50 > 65.90$ ). Moreover, the interval of the students' mean score in experimental group was higher than control group ( $18.33 > 6$ ). The result of Effect Size was 2.60 (categorized as "strong effect"). The t-value was higher than t-table ( $6.85 > 1.714$ ). It indicates the Null Hypothesis ( $H_0$ ) is rejected and Alternative Hypothesis ( $H_a$ ) is accepted.

In conclusion, the use of pictures is effective to teach vocabulary especially for students with autism. Thus, teacher could use this strategy as an alternative

way to encourage students' participation and activate their knowledge in teaching learning vocabulary. Therefore, teachers should manage interesting topic and variation pictures to attract the students with autism to learn vocabulary.

## **CONCLUSION AND SUGGESTION**

### **Conclusion**

Based on the analysis of the students' test, the result of the research could answers the problems of the research stated in the chapter 1. The conclusion are (1) Teaching English vocabulary for autism students by using picture is effective. The pictures can increase the students' achievement in vocabulary. It can be seen from their achievement before it was taught by using pictures was considered as poor to average. The students' mean score before treatment was 59.17. The students' achievement after taught by using pictures was average to good. The students' mean score after treatment was 77.50. From research findings, the mean score of posttest in experimental group was higher than the mean score of posttest in control group ( $77.50 > 65.90$ ). Moreover, the interval of the students' mean score in experimental group was higher than control group ( $18.33 > 6$ ). The result of Effect Size was 2.60 (categorized as "strong effect"). The t-value was higher than t-table ( $6.85 > 1.714$ ). It indicates the Null Hypothesis ( $H_0$ ) is rejected and Alternative Hypothesis ( $H_a$ ) is accepted. It means that teaching English vocabulary for autism students by using picture is effective. (2) The result of the t-value was 6.85. It was higher than t-table for the  $df = 12+13-2 = 23$  that was 1.714. It indicates that there was significant difference of the students' achievement between experimental and control group. The autism students in experimental group had got better achievement rather than the autism students in control group.

### **Suggestion**

By having seen the result of the study pictures is recommended to be used in teaching English vocabulary especially for students with autism. It can increase their vocabulary mastery. For the next studies, there are some suggestions:

1. In teaching English vocabulary for autism students, the teacher should choose easy, eyes-catching pictures and familiar vocabulary for students. Such as big and colorful pictures of animals, parts of the body and fruit. It is because most of the autism students are visual learner. So the easy, eyes-catching pictures and familiar vocabulary can take their attention to focus and learn the vocabulary.
2. In teaching autism students, teacher need to give verbal respond, such as, if the students could not pronounce the word correctly, the writer gave a respond by

- shaking head and said “No...” to the students. The verbal respond is easier to be understood by the autism students.
3. In teaching autism students teacher need to give good reinforcement, such as said “You are a good boy’, or by raising the two thumbs if the students can do something said by the teacher. Reinforcement is very important in teaching students with autism because it can motivate and increase the students’ behavior to learn.
  4. In teaching autism students, teacher needs to be creative to create an interesting teaching learning activity, such as by giving words games to place the pictures of part of the body to body in the picture. This activity is not only gives the autism students’ new vocabulary but also makes the students be active in teaching learning process.
  5. In helping the autistic students are better to catch the teacher instructions; the teacher should give clear example and instruction, where the example and instruction must be repeated many times to make the students understand.

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